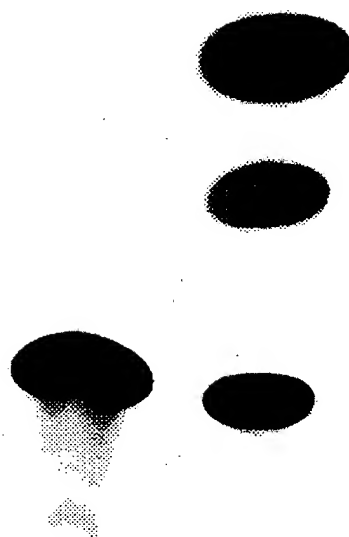


FIG.1A

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% Acetil	0.3	76
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TAT	+	+
TAT22	+	

FIG. 1B

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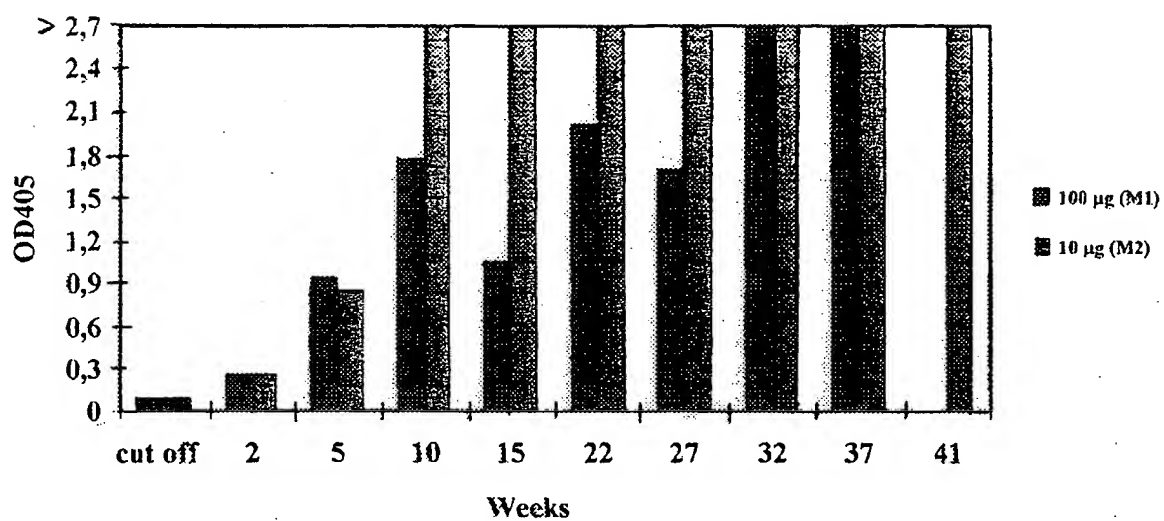


FIG. 2 A

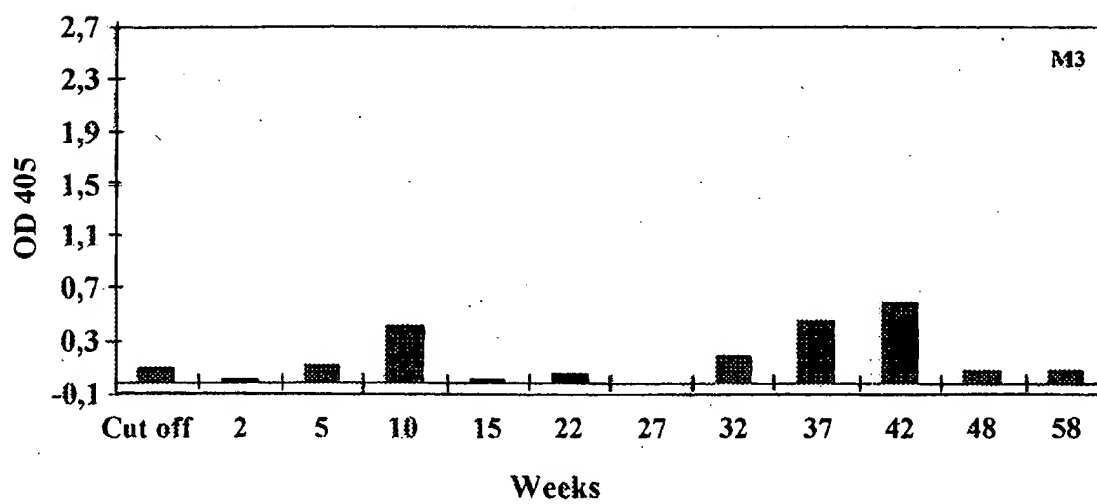


FIG. 2B

- Seq. P6. Primer reverse Gag: 5'TTATTGTGACGAGGG3'
- Seq. P7. Primer forward IL-12: 5'ATGTGGCCCCCTGGG3'
- Seq. P8. Primer reverse IL-12: 5'TTAGGAAGCATTGAG3'
- Seq. P9. Primer forward IL-15: 5'ATGAGAATTTGAAA3'
- 5 Seq. P10. Primer reverse IL-15: 5'TCAAGAAGTGTTGAT3'
- Seq. P11. Primer forward Tat: 5'ATGGAGCCAGTAGAT3'
- Seq. P12. Primer reverse Tat: 5'CTATTCCTTCGGGCC3'
- Seq. P13. Primer forward Tat/Rev: 5'GGCCCGAAGGAAATGGCA
GGAAGAAGC3'
- 10 Seq. P14. Primer forward Tat/Nef: 5' GGCCCGAAGGAAATGGGT
GGCAAGTGG3'
- Seq. P15. Primer forward Tat/Gag: 5' GGCCCGAAGGAAATGGGT
GCGAGAGCG3'
- Seq. P16. Primer forward Tat/IL-12: 5' GGCCCGAAGGAAATGTGGC
15 CCCCTGGG3'
- Seq. P17. Primer forward Tat/IL-15: 5' GGCCCGAAGGAAATGAGAAT
TTCGAAA3'

55. Primer selected among:

- Seq. P1. Primer forward Rev: 5'ATGGCAGGAAGAAGC3'
- 20 Seq. P2. Primer reverse Rev: 5'CTATTCTTTAGTTCC3'
- Seq. P3. Primer forward Nef: 5'ATGGGTGGCAAGTGG3'
- Seq. P4. Primer reverse Nef: 5'TCAGCAGTCCTTGTA3'
- Seq. P5. Primer forward Gag: 5'ATGGGTGCGAGAGCG3'
- Seq. P6. Primer reverse Gag: 5'TTATTGTGACGAGGG3'
- 25 Seq. P7. Primer forward IL-12: 5'ATGTGGCCCCCTGGG3'
- Seq. P8. Primer reverse IL-12: 5'TTAGGAAGCATTGAG3'
- Seq. P9. Primer forward IL-15: 5'ATGAGAATTTGAAA3'
- Seq. P10. Primer reverse IL-15: 5'TCAAGAAGTGTTGAT3'
- Seq. P11. Primer forward Tat: 5'ATGGAGCCAGTAGAT3'
- 30 Seq. P12. Primer reverse Tat: 5'CTATTCCTTCGGGCC3'
- Seq. P13. Primer forward Tat/Rev: 5'GGCCCGAAGGAAATGGCA

GGAAGAAGC3'

Seq. P14. Primer forward Tat/Nef: 5' GGCCCGAAGGAAATGGGT
GGCAAGTGG3'

5 Seq. P15. Primer forward Tat/Gag: 5' GGCCCGAAGGAAATGGGT
GCGAGAGCG3'

Seq. P16. Primer forward Tat/IL-12: 5' GGCCCGAAGGAAATGTGGC
CCCCTGGG3'

Seq. P17. Primer forward Tat/IL-15: 5' GGCCCGAAGGAAATGAGAAT
TTCGAAA3'.

10 56.Process for preparing a vaccine according to claims 6-41, wherein Tat is in its
non oxidated form.

57.Process for preparing a vaccine according to claims 6-41, wherein Tat, in its
lyophilized form, is re-suspended in a biologically acceptable fluid for
administration.

15 58.Use of Tat protein wild-type in its active form and/or its mutants and/or parts
related to the protein or peptides or the DNA encoding for these proteins or
parts of them or peptides to make a protein or peptide or DNA vaccine,
preventive and/or therapeutic, against AIDS, tumors, the syndromes and
symptoms associated to HIV infection.

20 59.Use of Alum, ISCOM, RIBI and other adjuvants, alone or in combination, to
make a vaccine according to claim 6.

60.Use of paramagnetic beads coated with monoclonal antibodies anti-CD3 and
anti-CD28 to make a vaccine according to claim 6.

25 61.Therapeutic method for treating AIDS, tumors, syndromes and symptoms
associated with HIV infection characterized in that preventive or therapeutic
amounts of biologically active Tat according to claims 1-5 are administered.

HIV-1 Tat, or derivatives thereof, alone or in combination, for prophylactic and therapeutic vaccination against AIDS, tumors and related syndromes

Abstract

The present invention refers to Tat as the active principle for a prophylactic and/or
5 therapeutic vaccine against HIV infection, the progression towards AIDS and the
development of tumors and other syndromes and symptoms in subjects infected by
HIV. Tat is in biologically active form either as recombinant protein or peptide or as
DNA. More particularly, the invention refers to a vaccine based on HIV-1 Tat as
immunogen, inoculated as DNA and/or recombinant protein or as peptides, alone or
10 in combination with other genes or viral gene products (Nef, Rev, Gag) or parts
thereof, or in combination with various immuno modulant cytokines (IL-12, IL-15) or
with the gene coding for an immuno modulant cytokine or part thereof. Tat, Nef, Rev,
Gag and the immuno modulant cytokines are administrated both as a mixture of
recombinant proteins, peptides or fusion proteins (Tat/Nef, Tat/Rev, Tat/Gag, Tat/IL-
15 12, Tat/IL-15) or as plasmid DNA.

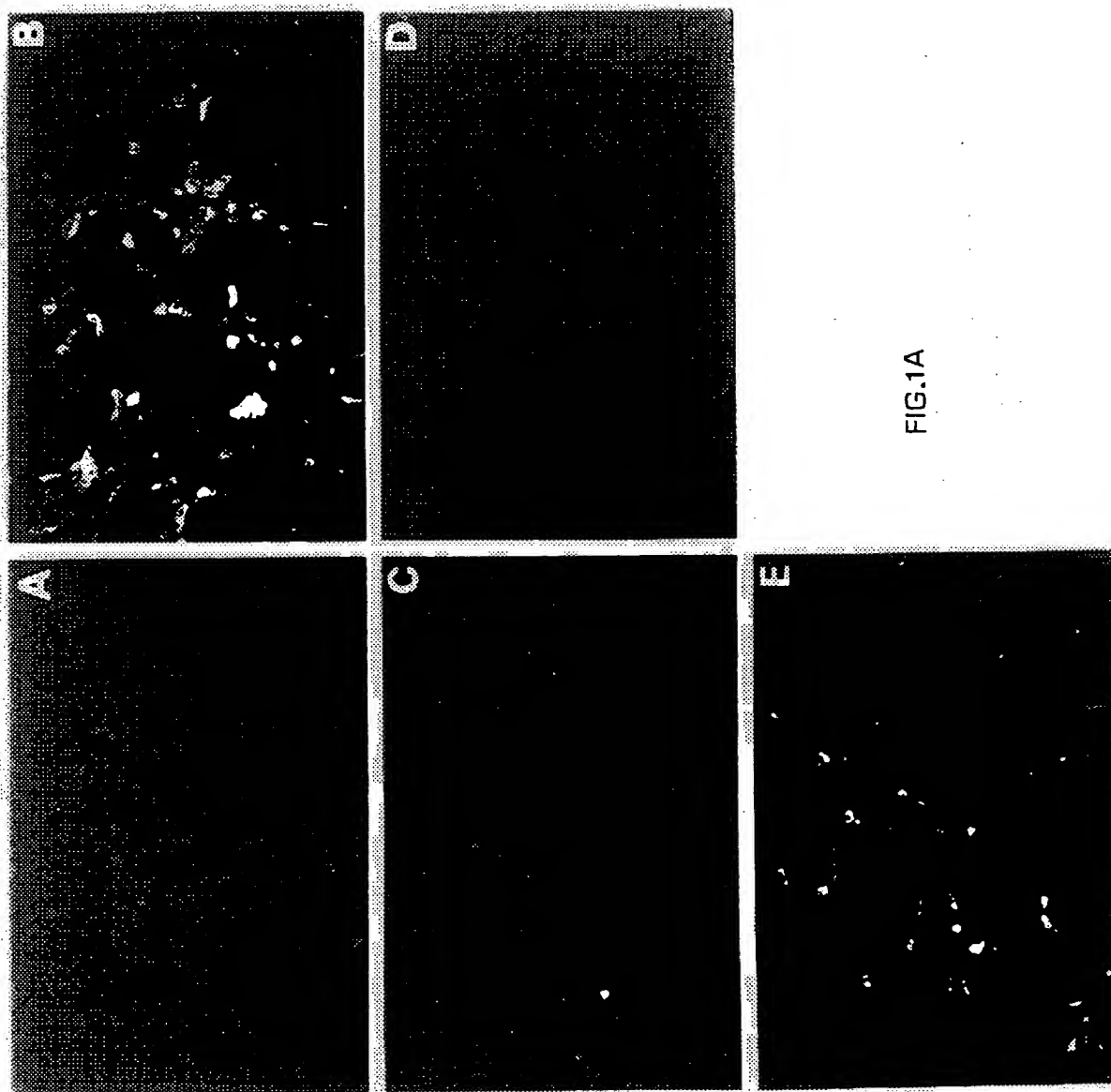
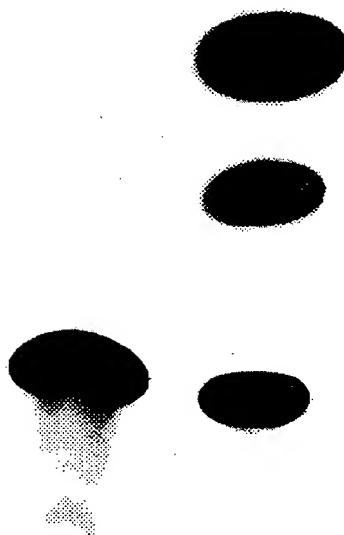


FIG.1A

2/17

% Acetil	0.3	76
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TAT	+	+
TAT22	+	

FIG. 1B

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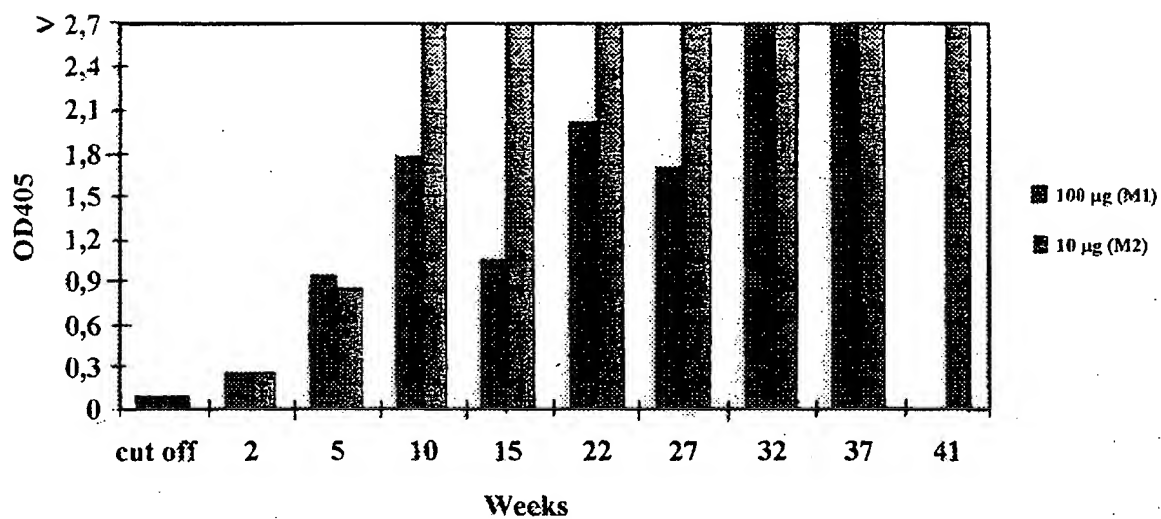


FIG. 2 A

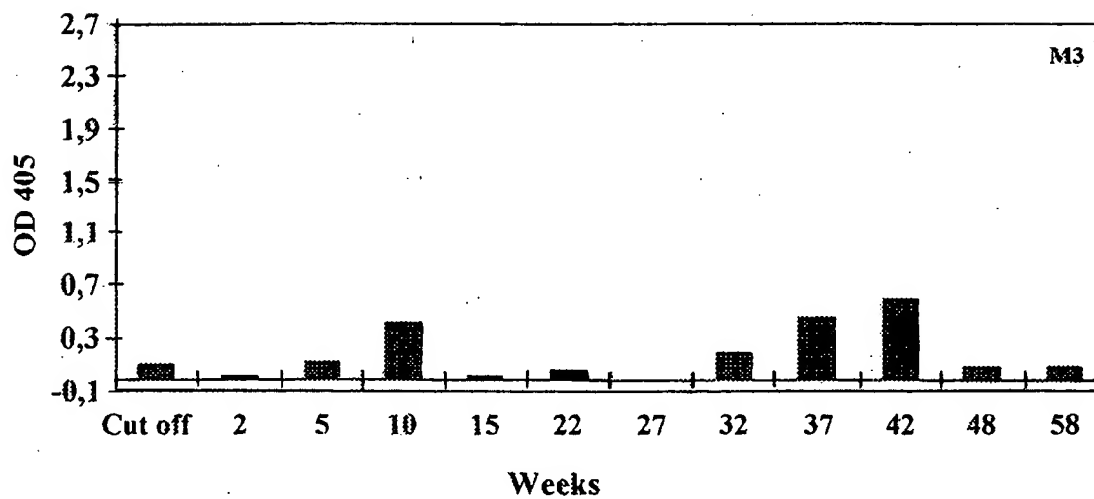


FIG. 2B

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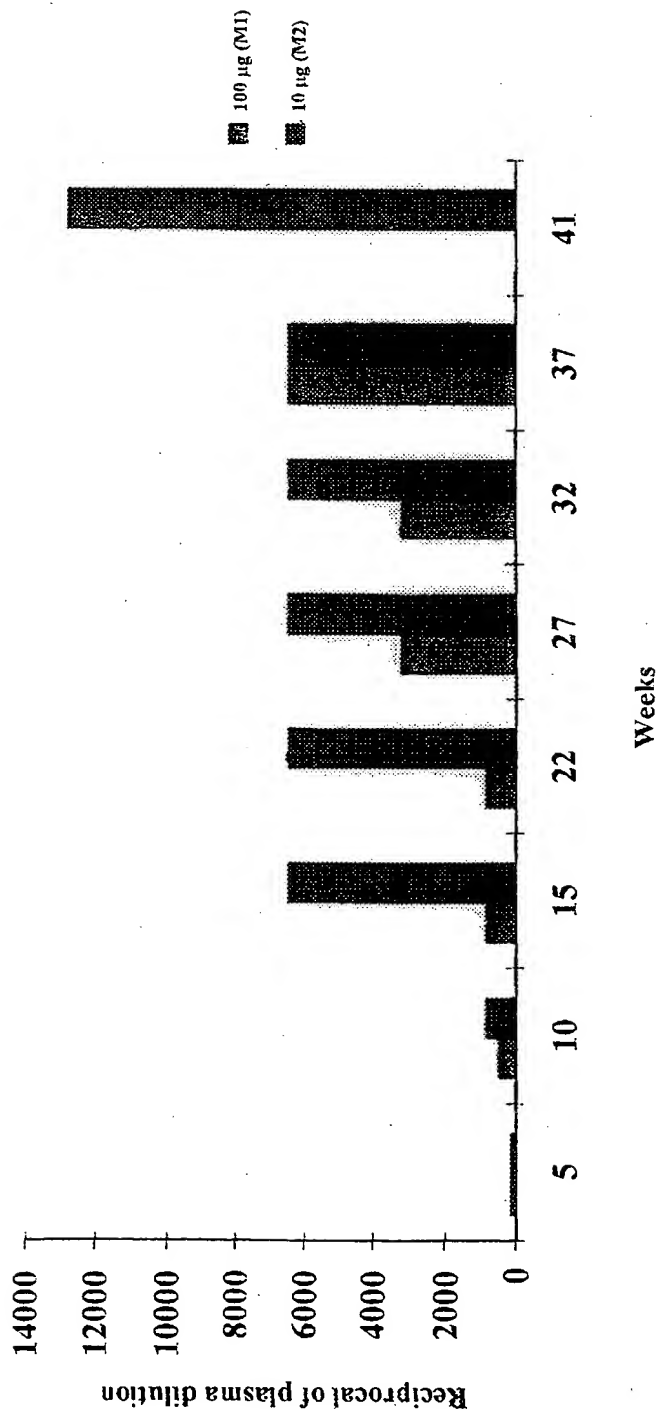


FIG. 3

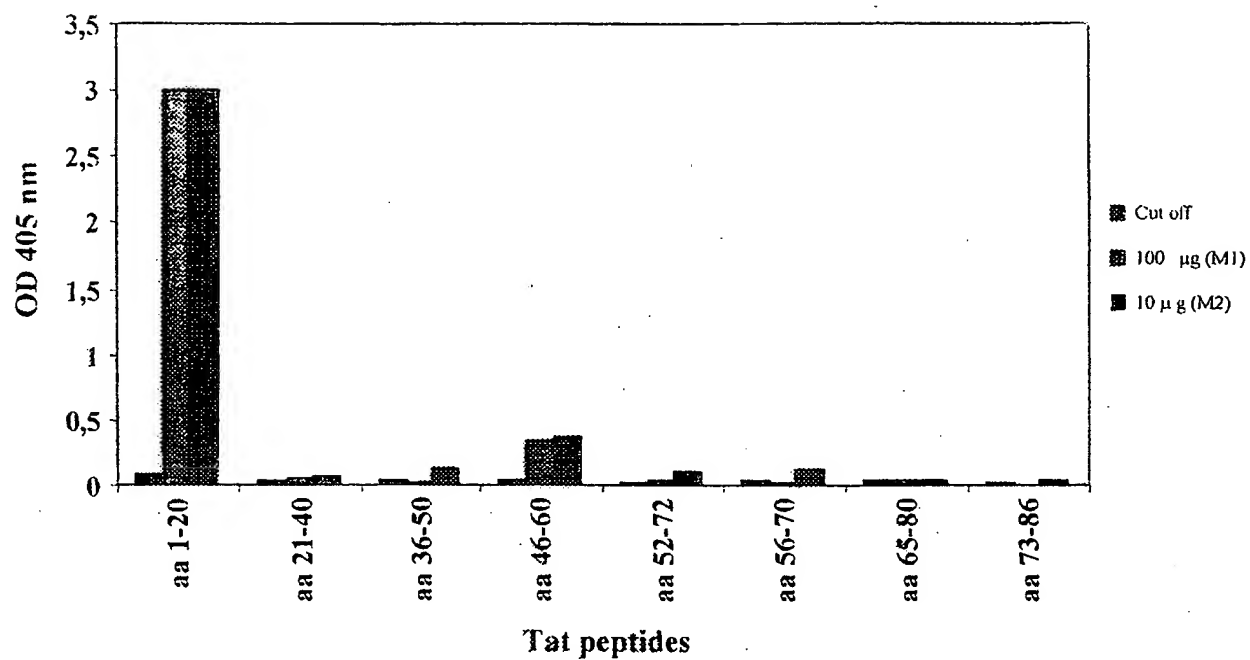


FIG. 4A

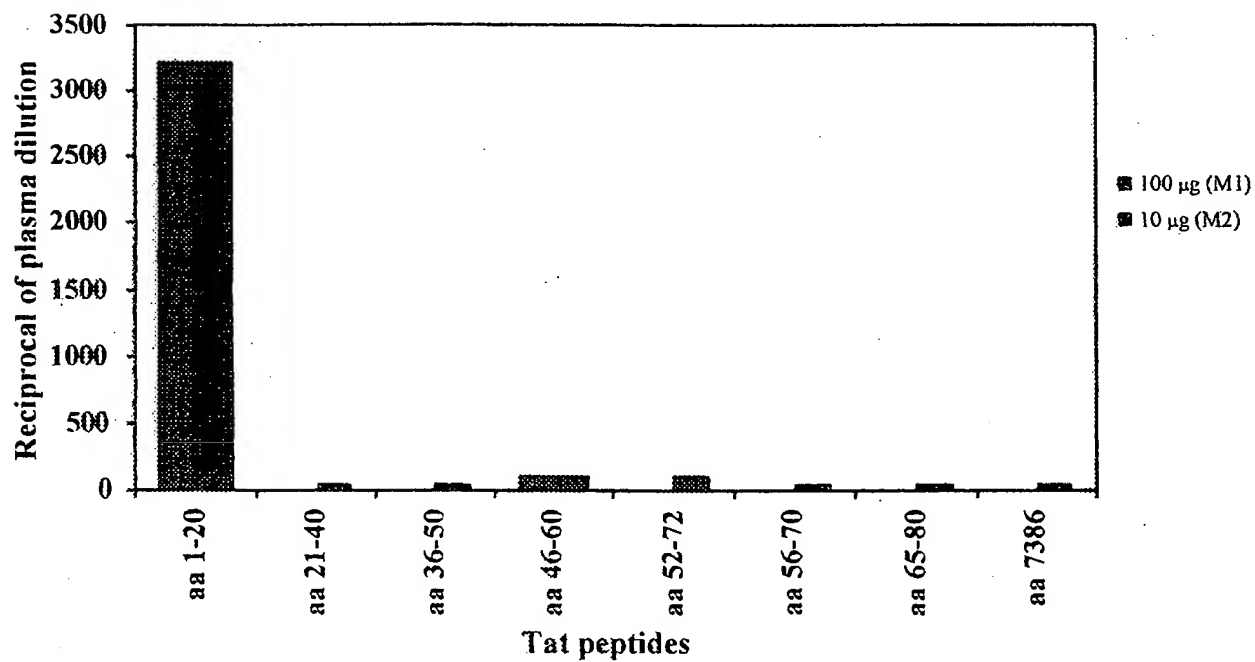


FIG. 4B

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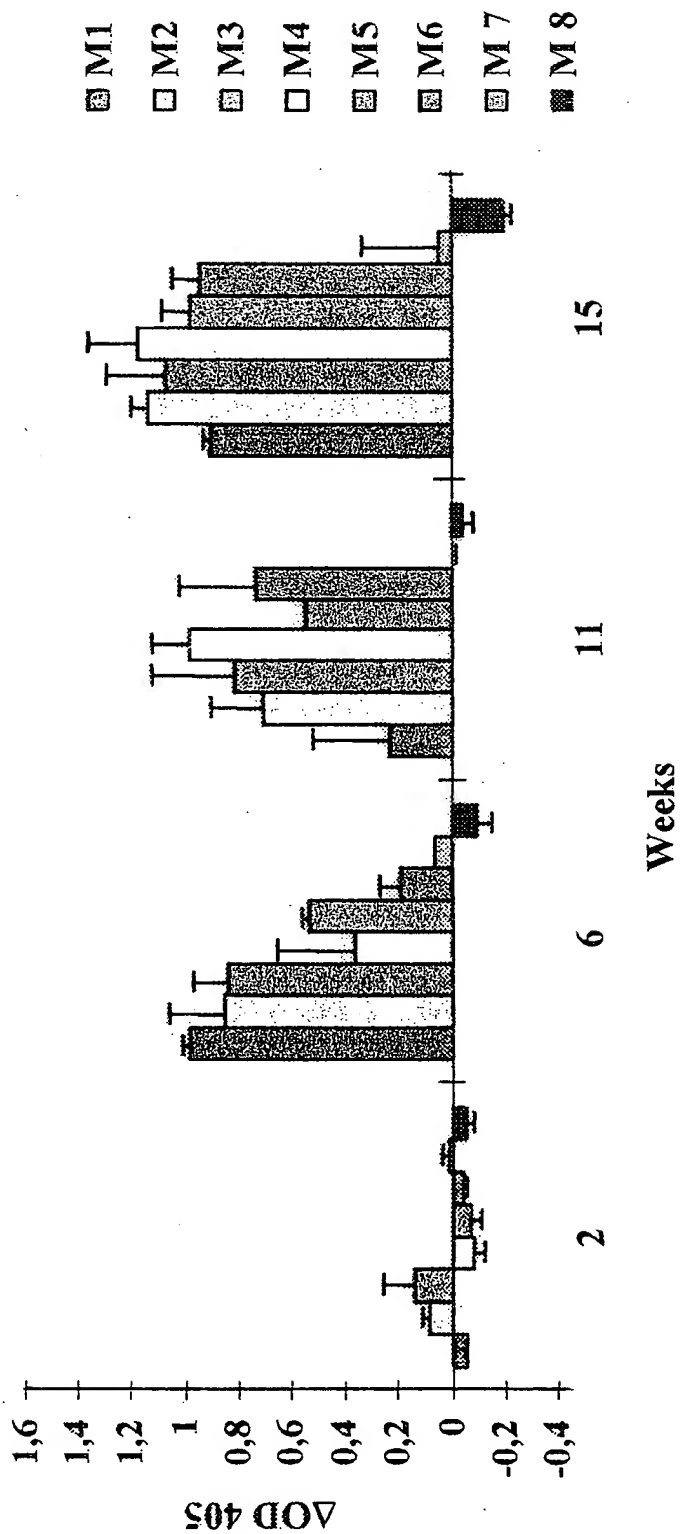


FIG. 5

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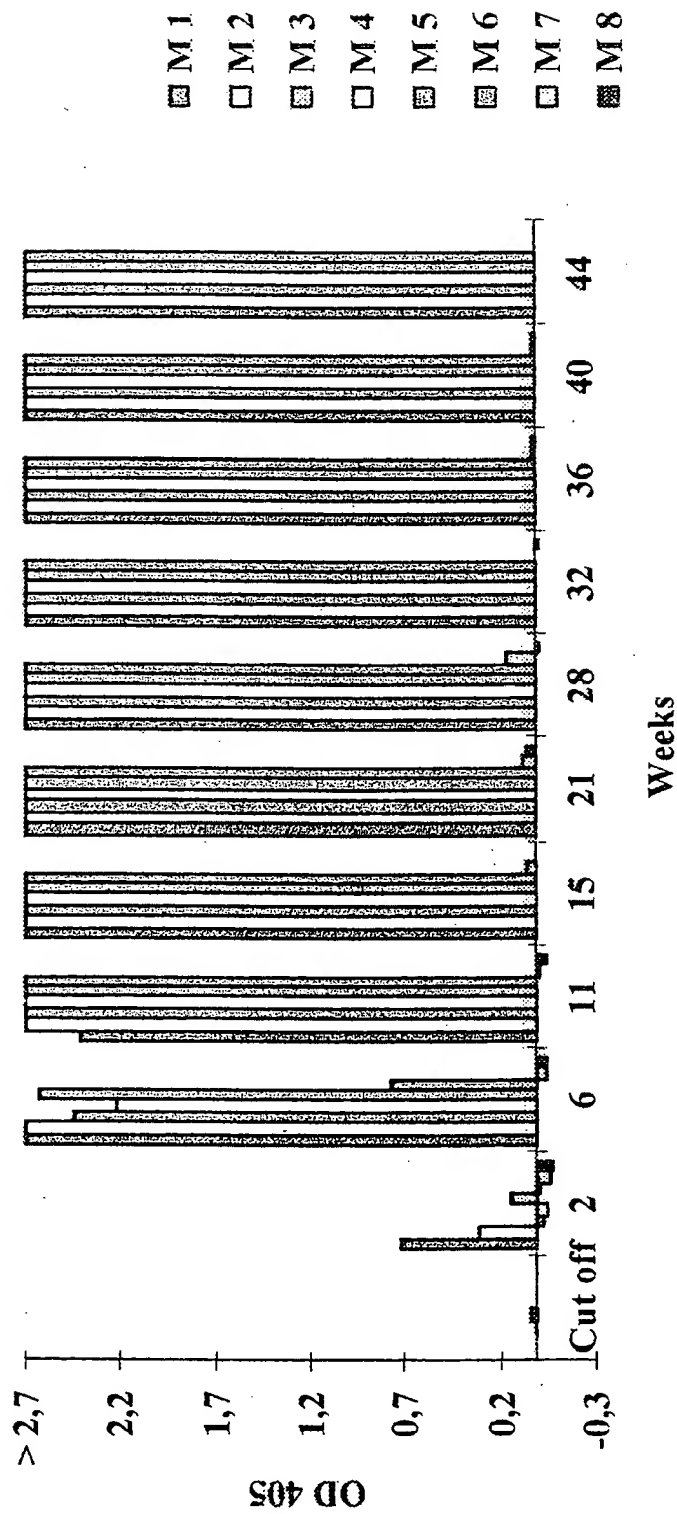


FIG. 6

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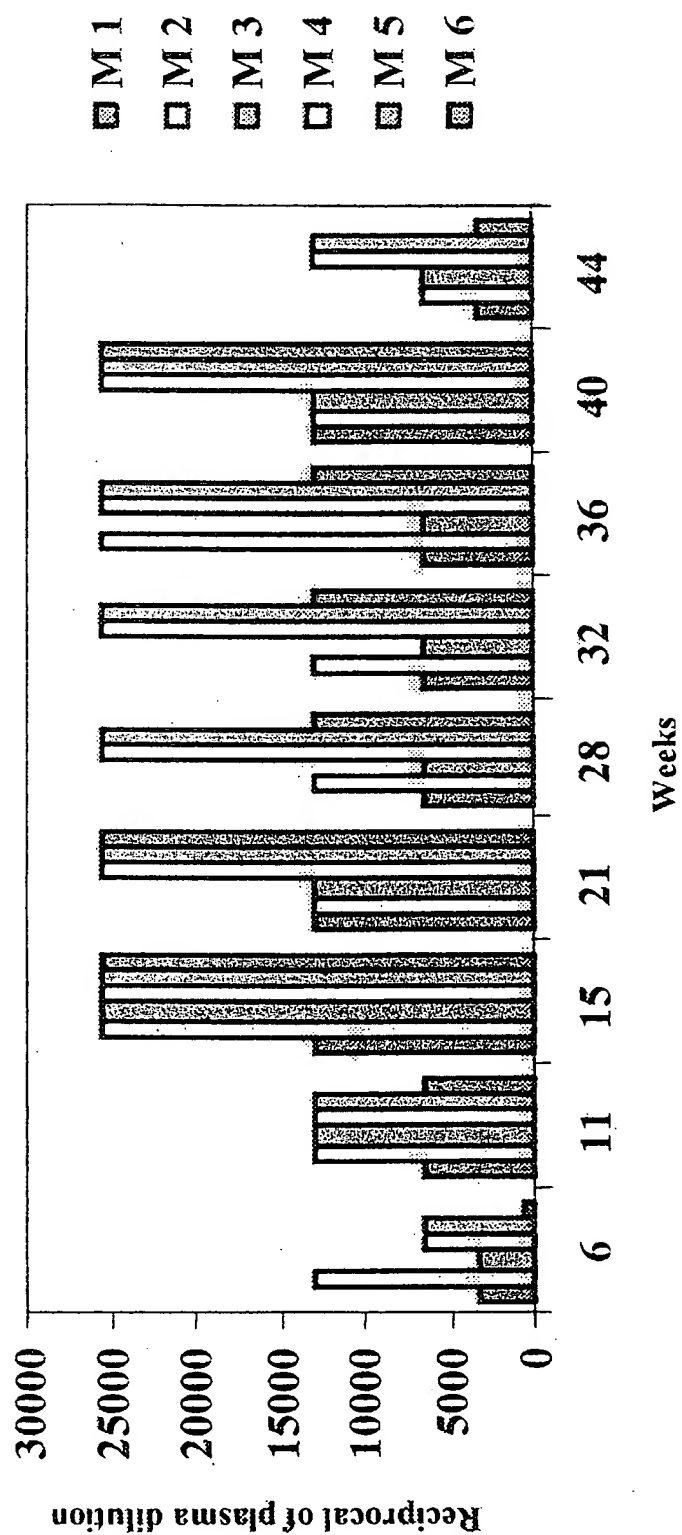


FIG. 7

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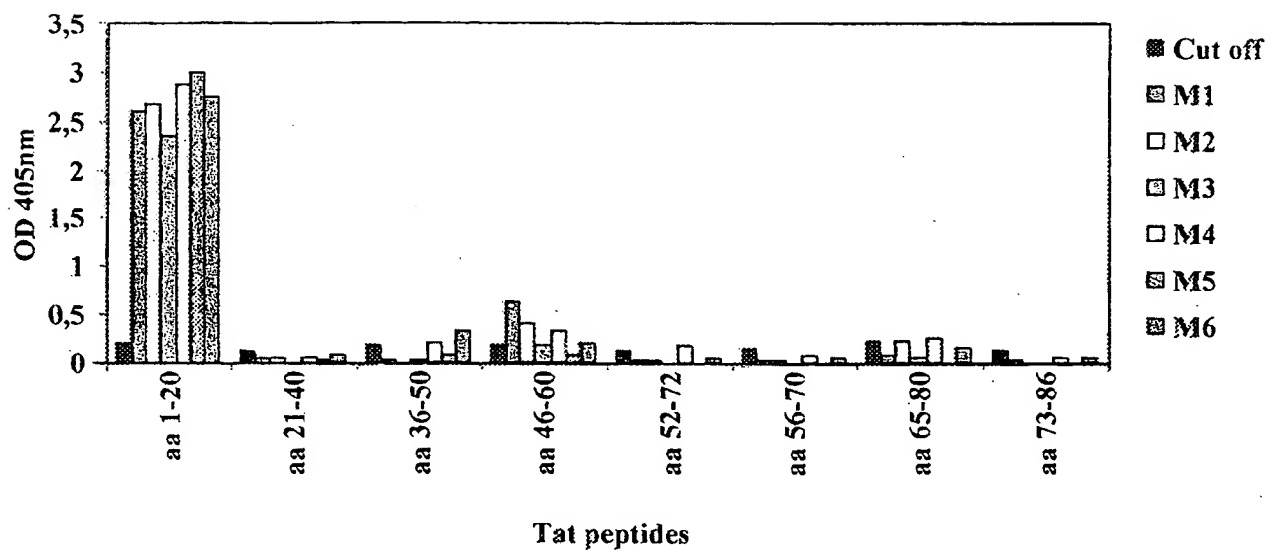


FIG.8A

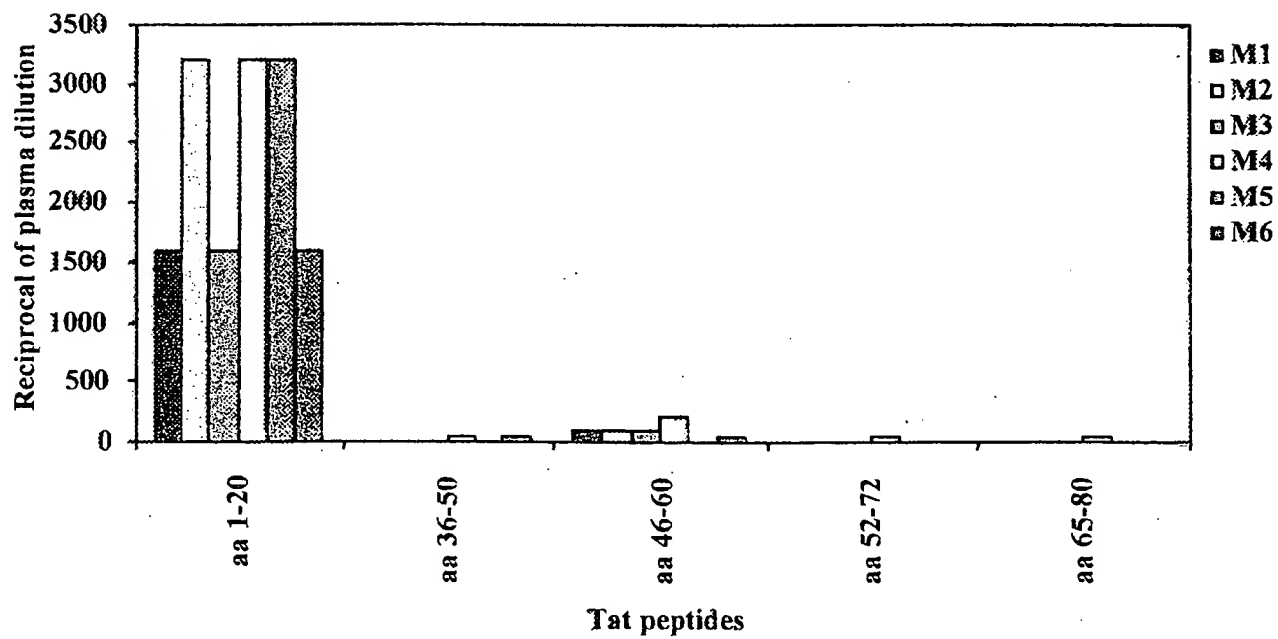
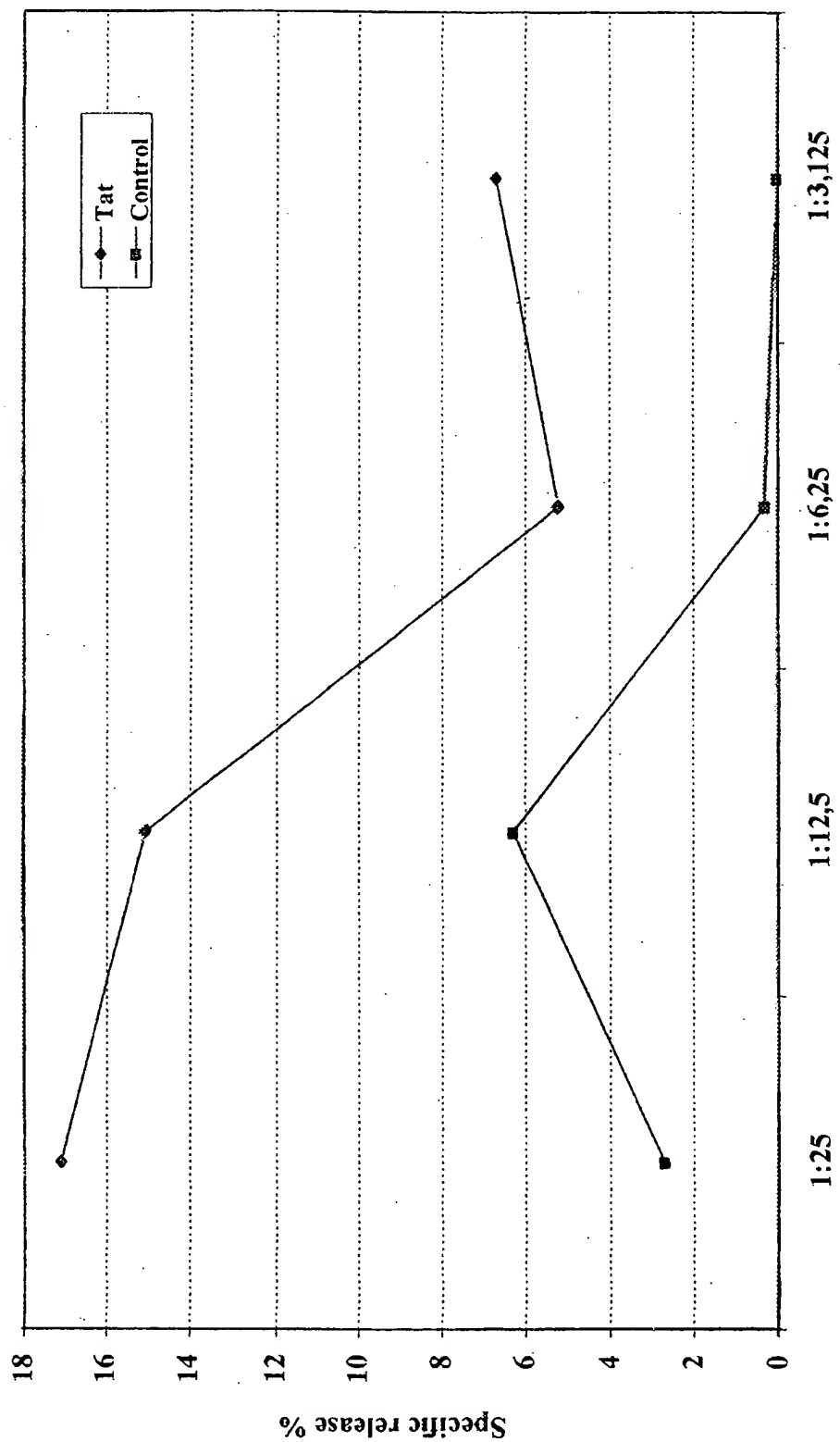


FIG.8B

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Target : Effector ratios

FIG. 9

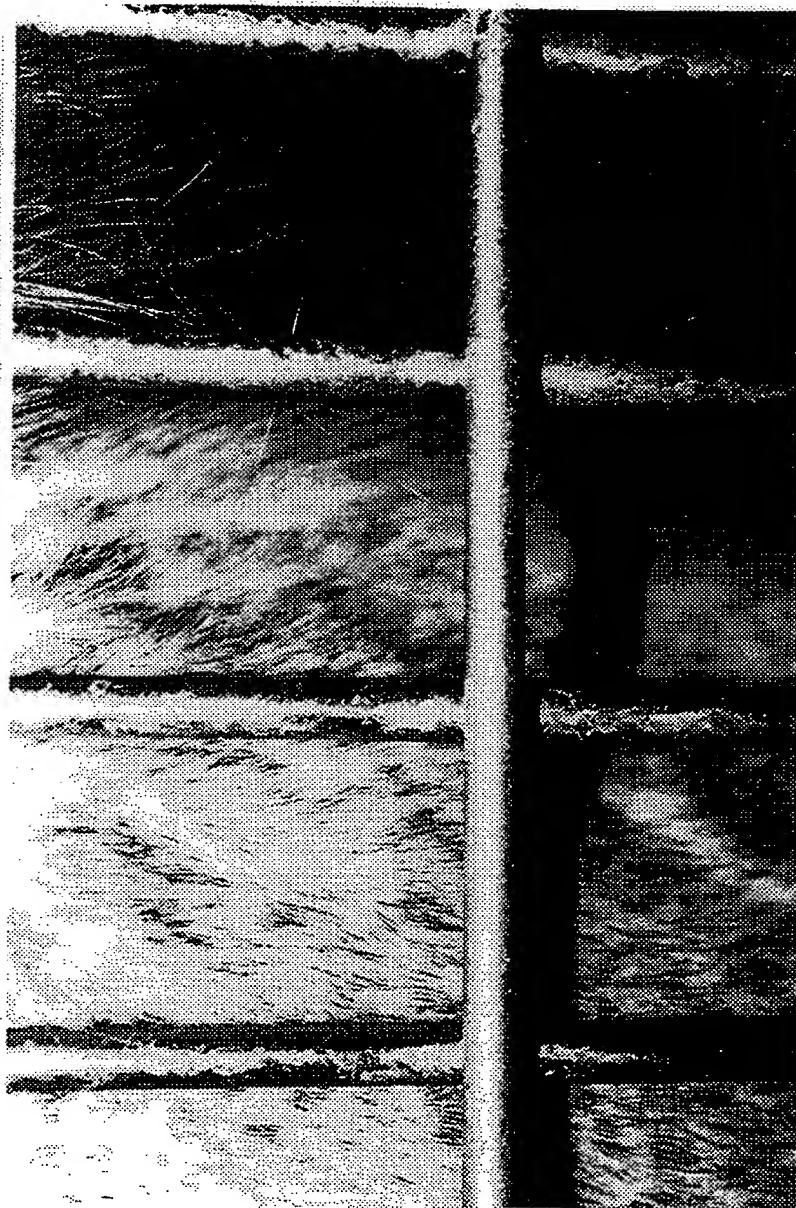


FIG. 10

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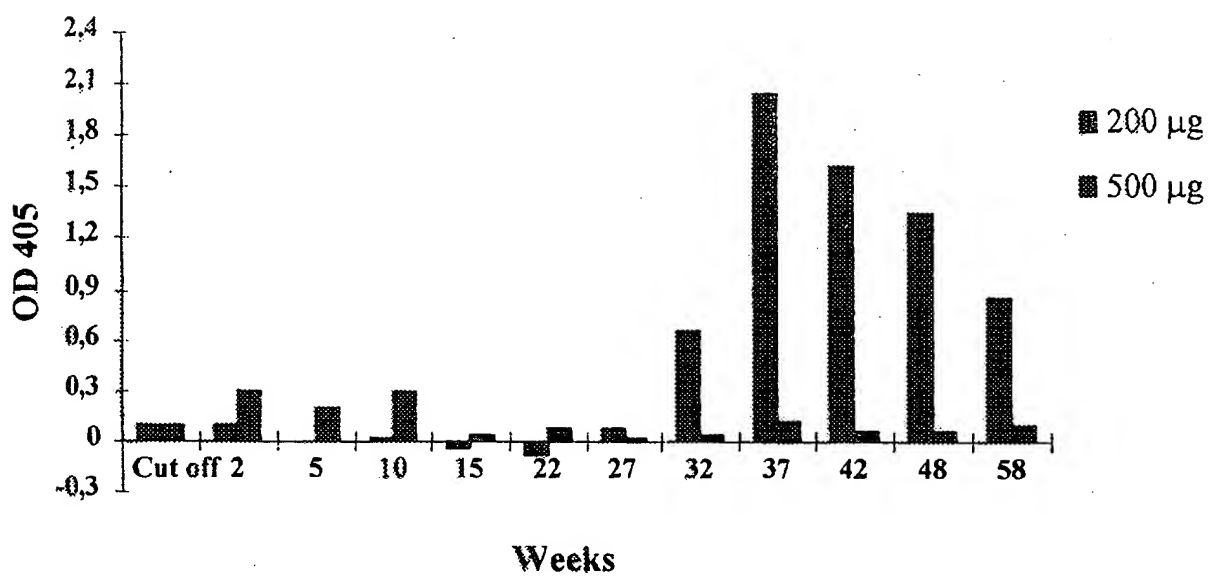


FIG. 11A

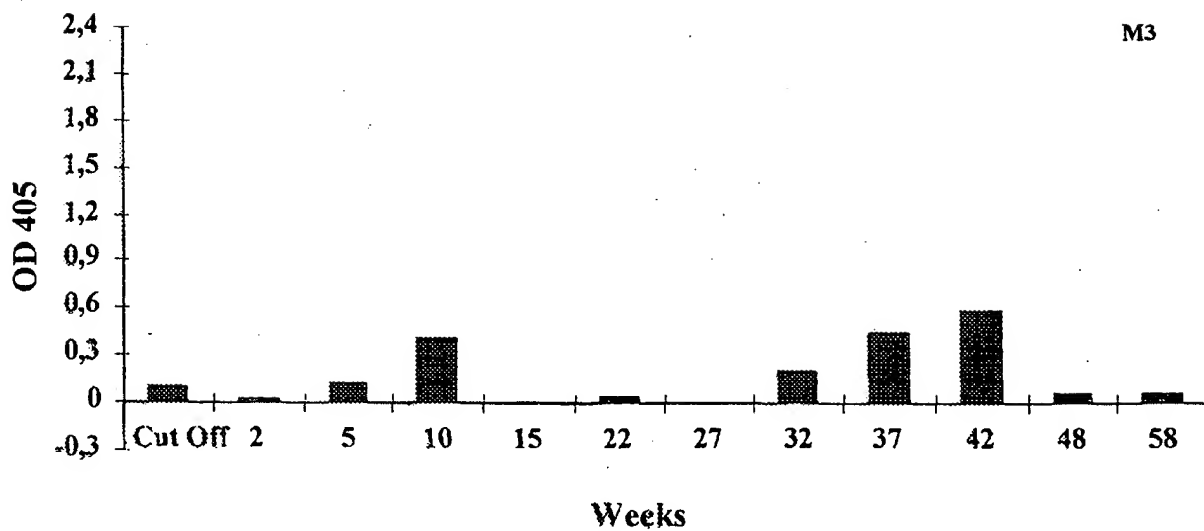


FIG. 11B

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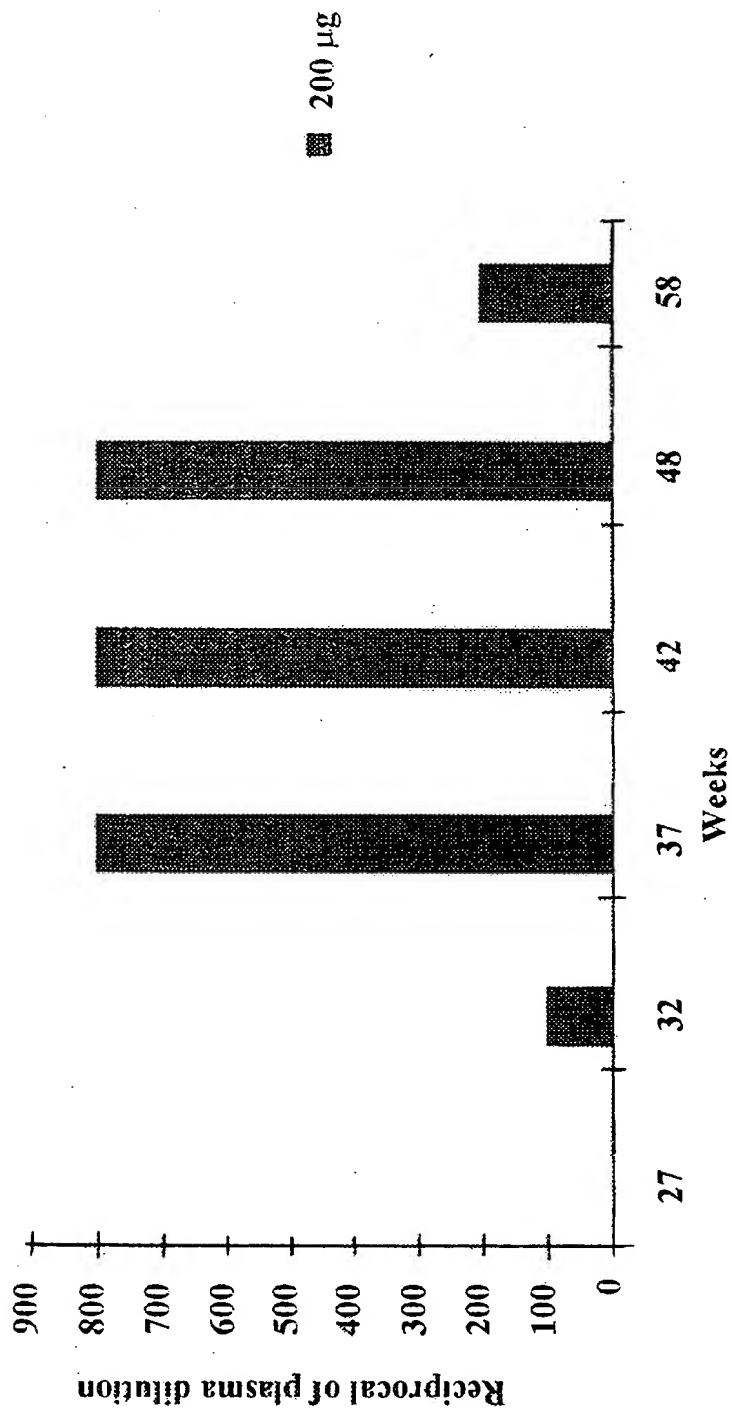


FIG. 12

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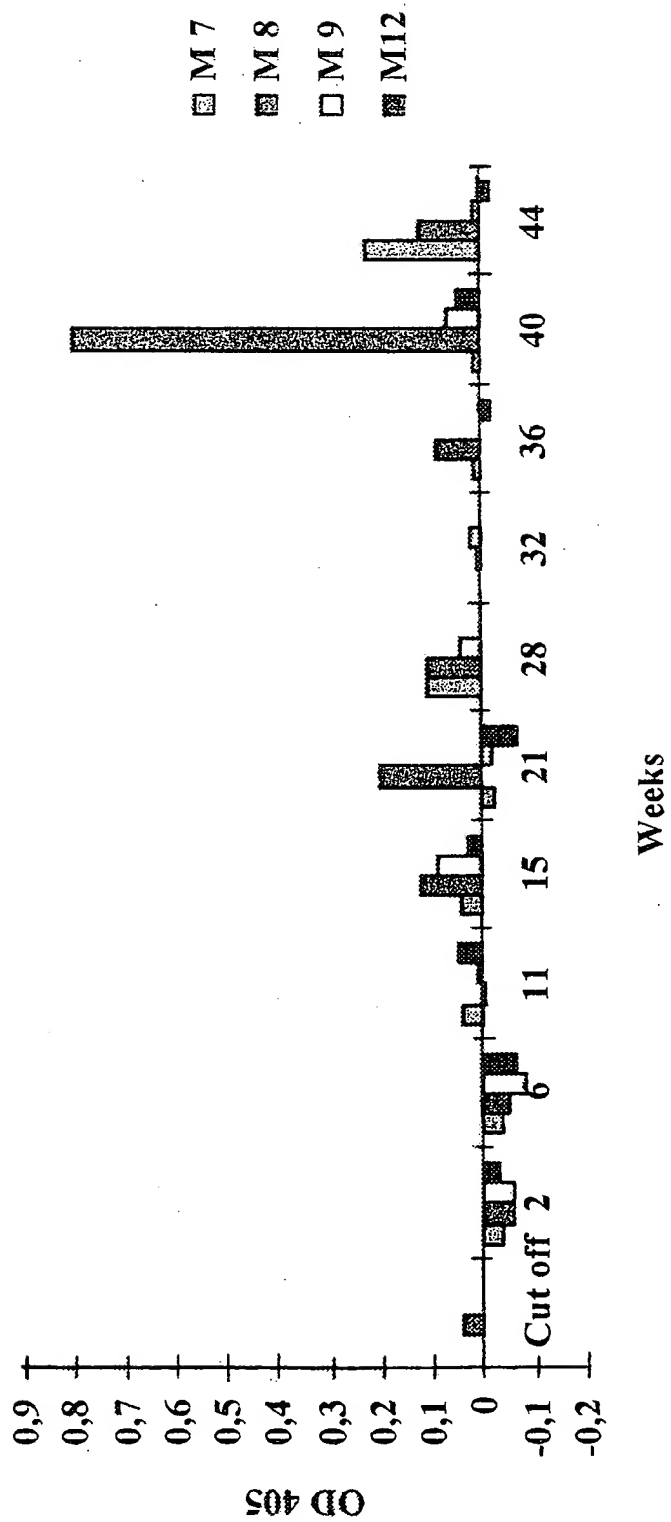


FIG. 13

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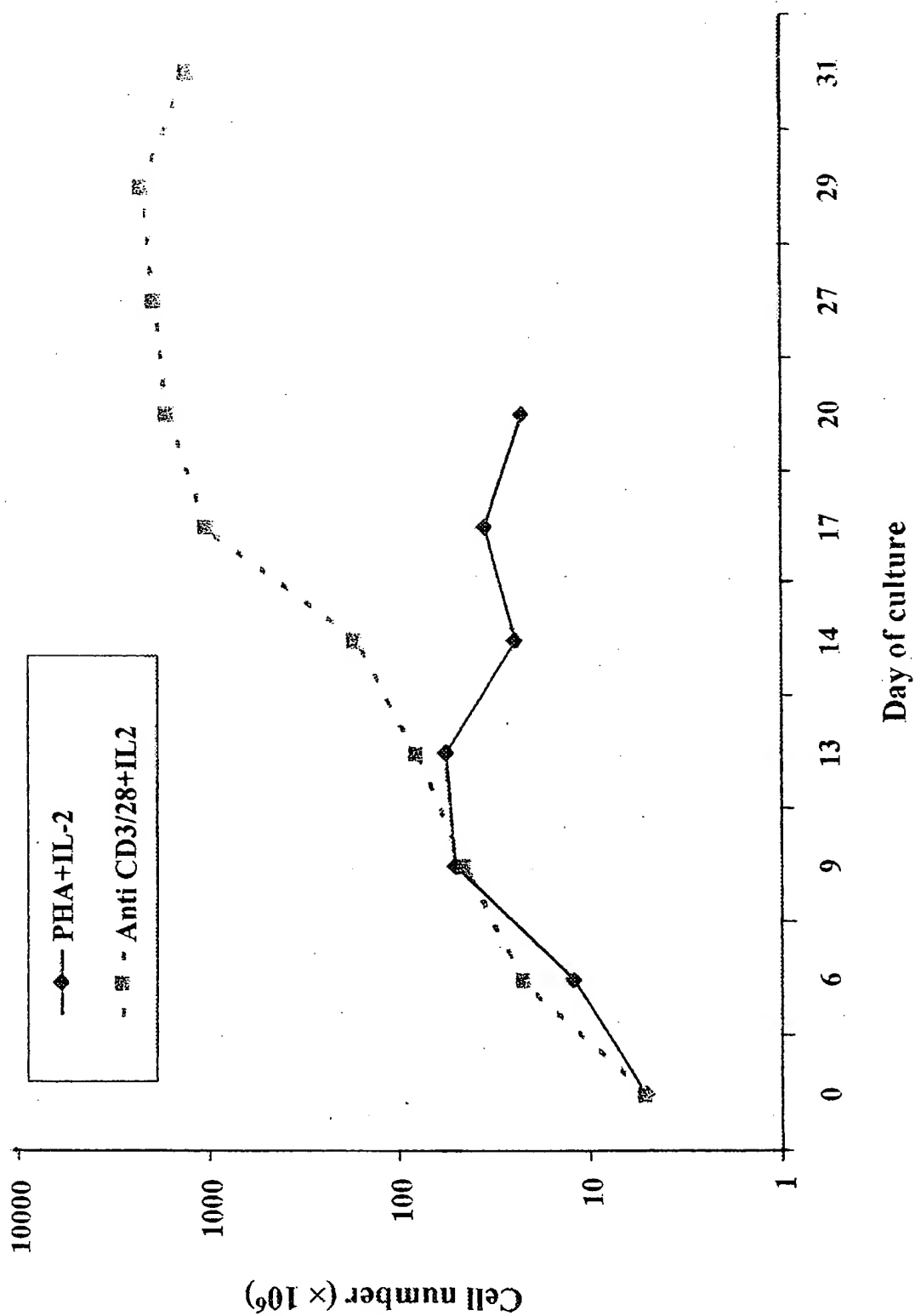


FIG. 14

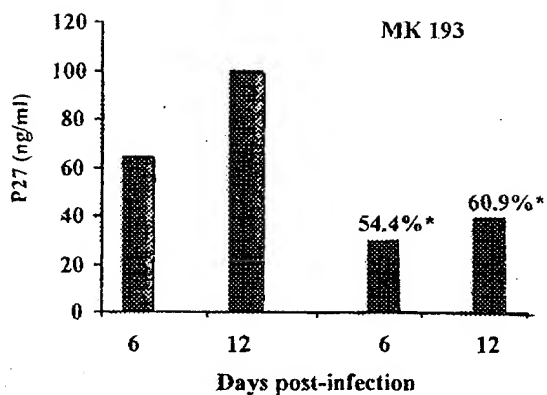


FIG. 15A

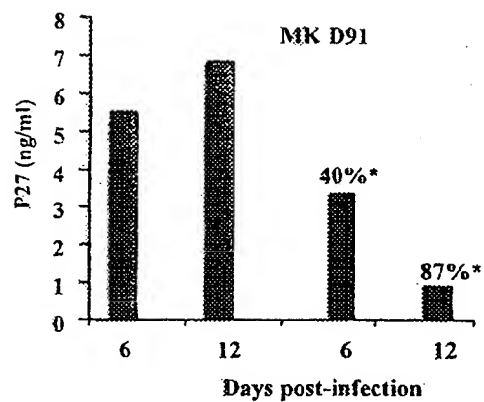


FIG. 15B

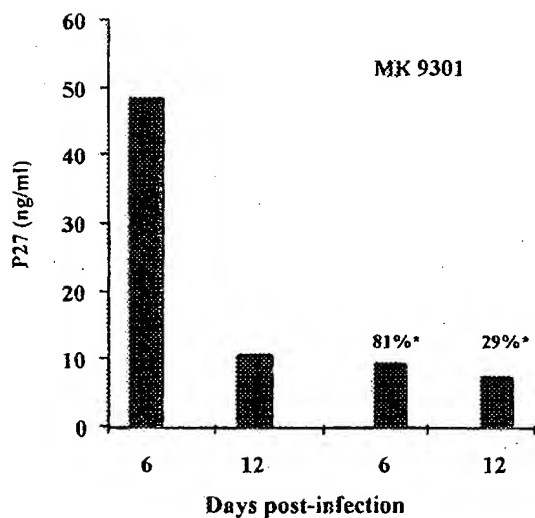


FIG. 15C

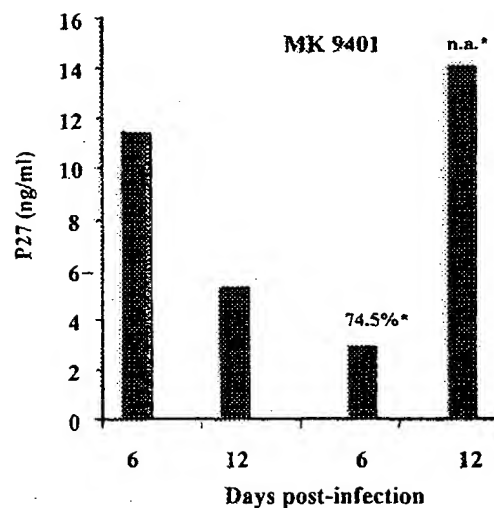


FIG. 15D

*: Percentage of inhibition

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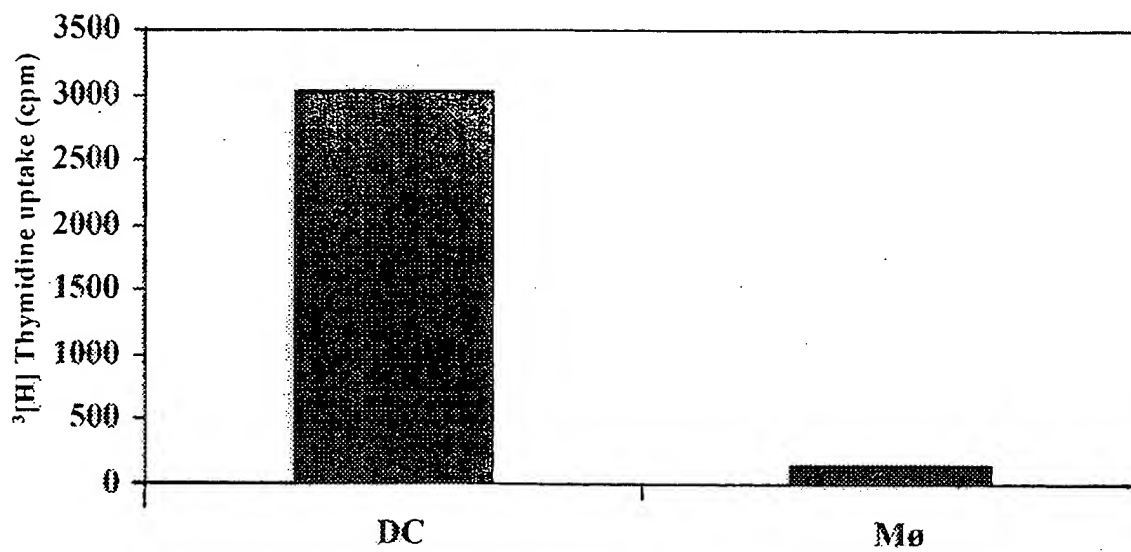


FIG. 16A

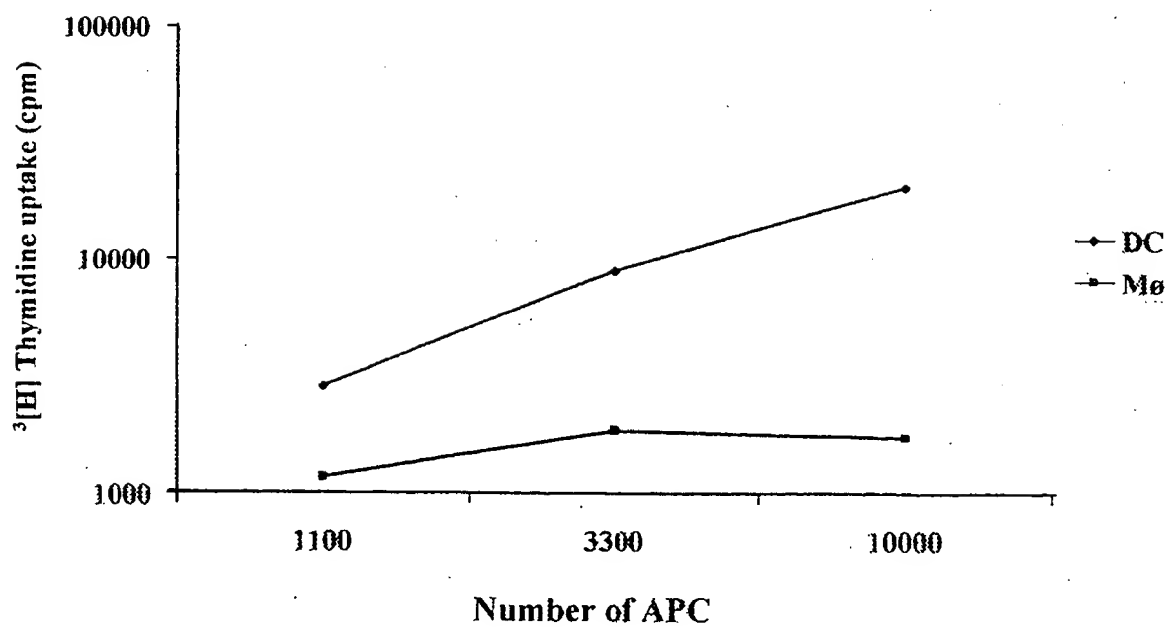


FIG. 16B